

ABSTRACT

A low form-factor transceiver system appropriate for long-reach optical communications is presented. In accordance with the present invention, an electronic interface to a receiver optical sub assembly (ROSA) and a transmitter optical sub assembly (TOSA) is arranged on a multi-layer board to electrically isolate the transmitter and receiver portions from a high-voltage power supply, which is utilized to provide bias voltages to optical detectors in the ROSA. In some embodiments of the invention, the high-voltage power supply is arranged on a top layer while the transmitter and receiver are arranged on a bottom layer in a split-ground arrangement. Layers between the top layer and the bottom layer include at least one ground plane and provide vias for electrical connections.